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Technical Memorandum

DATE: May 20, 2022

TO: Tom Buell, Jim Borovich, Hillary Stoll
Nebraska Department of Environment and Energy (NDEE)

FROM: Dan Bigbee

SUBJECT: Task Assignment TA-21-08A/B/C/D/E/F
AltEn Ethanol Plant – Environmental Sampling Support
IIS Number: 84069, Program ID: Fast Track
Lagoon Wastewater Sampling

Project Description

EA Engineering, Science, and Technology, Inc., PBC (EA) was contracted by the Nebraska Department of Environment and Energy (NDEE) to perform lagoon wastewater sampling from the three (3) wastewater lagoons at the AltEn Ethanol Plant (Site) near Mead, NE for pesticides analyses.

Data Collection

Tuesday, April 26, 2022

EA arrived at the site at 0815 hours to initiate the field work. The following activities were completed.

- EA personnel met with Jim Borovich from NDEE and Sadie Jackson from New Fields at the AltEn job trailer.
- EA personnel signed in and discussed safety, parking and logistics and finalized the access plan with all parties.
- Discussed sampling plan with Sadie Jackson and Jim Borovich as New Fields was going to split samples with EA.
- Each lagoon will be characterized by one (1) sample collected from a depth of 18 inches, and one (1) from a depth of 72 inches. The samples are co-located from the same location (Figure 1). All three (3) lagoons will be sampled (southeast, northeast, and northwest lagoons), and each sample will consist of four (4) equal aliquots (subsamples) of approximately 600 ml, one aliquot from each corner of each lagoon (NW, NE, SW, and SE).

Lagoon Wastewater Sampling – Southeast Lagoon

- Used access ramp to reach the top of the lagoon berms and the berm was used to navigate to each sample location.
- EA set up on the southwest corner of the southeast lagoon.
- EA assembled a 30 ft long PVC conduit sampling apparatus from three (3) 10 ft lengths of 1 ½ inch diameter Schedule 40 PVC, connected by PVC couplers.
- Two (2) flotation buoys were attached to the PVC conduit, one located at the very end, and one in the center of the conduit.
- Two (2) separate lengths of 3/16 inch inside diameter low-density polypropylene (LDPE) tubing were inserted into the conduit from the water outlet end to the intake end, each was carefully marked to identify the 18-inch sample tube and the 72-inch sample tube.

- One (1) stainless steel weight was attached to the intake end of each LDPE tubing via hose clamps.
- Each length of sample tubing was measured and marked to ensure samples were gathered from the appropriate depths.
- An EA sampling staff member secured with a body harness and safety rope held the outlet end of the PVC conduit at the edge of the water.
- The EA staff member holding the conduit also lowered each LDPE tubing down to its respective sampling depth by pushing the tubing down into the conduit and out the intake side.
- Lagoon water was pumped through the LDPE tubing via a Geotech GeoPump peristaltic pump, and approximately two (2) quarts of water, or in excess of three (3) tubing volumes, was purged from each tube before a water sample was collected.
- EA collected approximately 600 ml in a glass amber jar from both depths, which constituted one (1) subsample.
- Purge water was poured back into the lagoon after sampling.
- Once water subsamples were collected from 18 inches deep and 72 inches deep, the conduit was pulled to the top of the berm and decontaminated with fresh water and spray hose, with this decontamination water returning to the lagoon.
- The sampling apparatus was carried to the NW corner of the Southeast Lagoon, and this sampling process was repeated.
- EA then sampled the SE corner and the NE corner of the Southeast Lagoon, using the same sampling process.
- EA had difficulties obtaining a water sample from 72 inches at the NE corner of the Southeast Lagoon, so the tubing was pulled up 12 inches and a subsample was obtained from that depth (60 inches).
- After all subsamples from the Southeast Lagoon were collected, each amber jar containing the subsamples from each depth were homogenized by gently mixing the jar.
- EA collected one (1) quart of lagoon water in a glass amber bottle from the 12-inch depth sample and one (1) quart of lagoon water in a glass amber bottle from the 72-inch depth sample.
- EA collected SE-18 and SE-72 at 1215 and 1220, respectively
- Sadie Jackson from New Fields also collected samples from the homogenized aliquots.
- The lagoon wastewater samples were labeled, placed in a zipper bag, and stored on ice.
- EA staff deconstructed the sampling apparatus, cut it into manageable pieces, and discarded it into a garbage bag.
- EA discarded the two lengths of LDPE tubing into garbage bags.

Lagoon Wastewater Sampling – Northeast Lagoon

- EA set up on the SE corner of the Northeast Lagoon.
- EA constructed a new sampling apparatus using the same method that was used for the Southeast Lagoon.
- EA inserted new LDPE tubing into the apparatus in the same manner that was used for the Southeast Lagoon.
- EA collected 12-inch and 72-inch subsamples from the SE, NE, NW, and SW corners of the Northeast Lagoon, respectively, using the same collection and decontamination process as was used for the Southeast Lagoon.
- After all subsamples from the Northeast Lagoon were collected, each amber jar containing the subsamples from each depth were homogenized by gently mixing the jar.
- EA collected one (1) quart of lagoon water in a glass amber bottle from the 12-inch depth sample and one (1) quart of lagoon water in a glass amber bottle from the 72-inch depth sample.
- EA collected NE-18 and NE-72 at 1515 and 1520, respectively.
- Sadie Jackson from New Fields also collected samples from the homogenized aliquots.

- The lagoon wastewater samples were labeled, placed in a zipper bag, and stored on ice.
- EA staff deconstructed the sampling apparatus, cut it into manageable pieces, and discarded it into a garbage bag.
- EA discarded the two lengths of LDPE tubing into garbage bags.
- All tubing, PVC piping, nitrile gloves, and other contaminated items were placed in the large roll off dumpster by office for disposal in a sanitary landfill.
- All parties signed out at AltEn office and left site at 1600 hours.

Wednesday, April 27, 2022

EA arrived at the site at 0812 hours to initiate the field work. The following activities were completed.

- Met with Jim Borovich from NDEE and Sadie Jackson from New Fields at the AltEn job trailer.
- EA personnel signed in and discussed safety, parking and logistics and finalized the access plan with all parties.

Lagoon Wastewater Sampling – Northwest Lagoon

- EA set up on the SE corner of the Northwest Lagoon.
- EA constructed a new sampling apparatus using the same method that was used for the previously sampled lagoons.
- EA inserted new LDPE tubing into the apparatus in the same manner that was used for the previously sampled lagoons.
- EA collected 12-inch and 72-inch subsamples from the SE, NE, NW, and SW corners of the Northwest Lagoon, respectively, using the same collection and decontamination process as was used for the previously sampled lagoons.
- Due to a buildup of solid waste on the lagoon liner on the NW and SW corner of the Northwest Lagoon, for safety reasons, NW and SW sample locations were moved to safter areas without solid waste on the north edge and south edge of the lagoon, respectively.
- At the NW and SW aliquot locations, the 72-inch sample was taken at approximately 36 inches due to shallow water conditions at those locations. The 72-inch sample at the SE aliquot was taken from approximately 48 inches due to shallow water conditions.
- After all subsamples from the Northwest Lagoon were collected, each amber jar containing the subsamples from each depth were homogenized by gently mixing the jar.
- EA collected one (1) quart of lagoon water in a glass amber bottle from the 12-inch depth sample and one (1) quart of lagoon water in a glass amber bottle from the 72-inch depth sample.
- EA collected NW-18, NW-72, and NW-96 (duplicate of NW-18) at 1135, 1140, and 1145, respectively.
- Sadie Jackson from New Fields also collected samples from the homogenized aliquots.
- The lagoon wastewater samples were labeled, placed in a zipper bag, and stored on ice.
- EA staff deconstructed the PVC conduit, cut it into manageable pieces, and discarded it into a garbage bag.
- EA discarded the two lengths of LDPE tubing into garbage bags and disposed in the large roll off dumpster.
- All parties signed out at AltEn office and left site at 1200 hours.

Sample Shipment

On Wednesday, April 27, 2022, samples collected on Tuesday, April 26, 2022 and Wednesday, April 27, 2022 were placed in shipping coolers with fresh ice, chain-of-custody, sealed, and shipped via overnight courier to Pacific Agricultural Laboratories in Sherwood, OR for analyses of pesticides.

Summary of Detections

The following table provides a summary of the detections in the lagoon water samples collected.

Analyte	Unit	Sample ID						
		SE-18	SE-72	NE-18	NE-72	NW-18	NW-72	NW-96*
Abamectin	µg/L	**74**	**74**	**1,400**	**1,800**	**120**	**500**	**110**
Azoxystrobin	µg/L	**1.5**	**1.5**	**0.87**	**0.89**	**88**	**95**	**84**
Carboxin	µg/L	**2.3**	**2.3**	**4.4**	**4.5**	ND	ND	ND
Chlorantraniliprole	µg/L	**110**	**110**	**780**	**760**	**760**	**790**	**710**
Chlorpyrifos	µg/L	ND	ND	ND	**0.16**	ND	**0.073**	ND
Clothianidin	µg/L	ND	ND	ND	ND	**200**	**180**	**210**
Cyantraniliprole	µg/L	ND	ND	ND	ND	**2.3**	**2.4**	**2.3**
Difenoconazole	µg/L	**2.5**	**2.4**	**46**	**62**	**1.3**	**1.4**	**1.2**
Fludioxonil	µg/L	**29**	**30**	**220**	**280**	**26**	**48**	**24**
Fluoxastrobin	µg/L	**5.8**	**5.9**	**640**	**740**	**740**	**980**	**690**
Imidacloprid	µg/L	ND	ND	ND	ND	**2.0**	**1.8**	**1.9**
Ipconazole	µg/L	**7.7**	**7.7**	**210**	**260**	**14**	**44**	**13**
Mefenoxam	µg/L	**8.8**	**8.9**	**35**	**32**	**3,700**	**3,300**	**4,200**
Metconazole	µg/L	**2.3**	**2.3**	**3.7**	**4.3**	ND	ND	ND
Permethrin	µg/L	ND	ND	**0.24**	**0.33**	ND	ND	ND
Propiconazole	µg/L	**19**	**19**	**16**	**18**	ND	ND	ND
Prothioconazole	µg/L	**3.6**	**3.5**	**96**	**140**	**3.7**	**25**	**4.4**
Sedaxane	µg/L	**56**	**60**	**160**	**170**	**75**	**89**	**74**
Tebuconazole	µg/L	**160**	**160**	**480**	**530**	**75**	**110**	**72**
Tetraconazole	µg/L	**0.51**	**0.51**	**0.36**	**0.44**	ND	ND	ND
Thiabendazole	µg/L	**500**	**490**	**1,500**	**1,700**	**990**	**1,100**	**930**
Thiamethoxam	µg/L	ND	ND	**1.4**	**1.3**	**1,600**	**1,500**	**1,500**
Tioxazafen	µg/L	ND	ND	**0.11**	**0.12**	**0.12**	**0.10**	**0.11**
Trifloxystrobin	µg/L	ND	ND	**10**	**14**	**5.0**	**19**	**4.7**

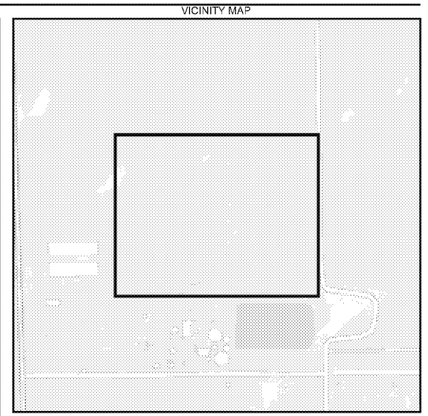
µg/L = microgram per liter
*NW-96 is a duplicate of NW-18.
ND = not detected above the laboratory limit of quantitation.
Bold = detection above the laboratory limit of quantitation.

Attachments

Attachments to this Technical Memorandum include:

- Photographic Log
- Field Collection Sheets
- Analytical Report

VICINITY MAP



Legend

Sample Aliquot Location

New Treated Water Lagoons

Note(s):
GW = Groundwater

Map Date: 5/18/2022
Source: Google Earth 2021
Projection: NAD 1983

N

0 75 150 Feet

1 inch = 150 feet

Figure 1
Lagoon Wastewater Sampling Locations
AltEn Ethanol Plant
Mead, Saunders County, Nebraska

F:\State & Local\State\NDEE\Projects\16606407 - Alt-En Off-Site\GIS\Alt-En_Off-Site -Figure 1 - Lagoon Wastewater Sample Locations.mxd mdreichartz

Attachment:

Photographic Log

Photographs

Photo 1. EA staff member holding sampling apparatus at the lagoon edge on the northeast corner of southeast lagoon.

Photo 2. EA personnel decontaminating sampling apparatus on the northeast corner of southeast lagoon.

Photo 3. EA staff member preparing to homogenize subsamples.

Photo 4. EA staff member collecting samples from homogenized subsamples.

Photo 5. NDEE, New Fields, and EA personnel at the northeast corner of the northwest lagoon.

Photo 6. EA personnel carrying sampling apparatus to sample location on the north side of the northwest lagoon.

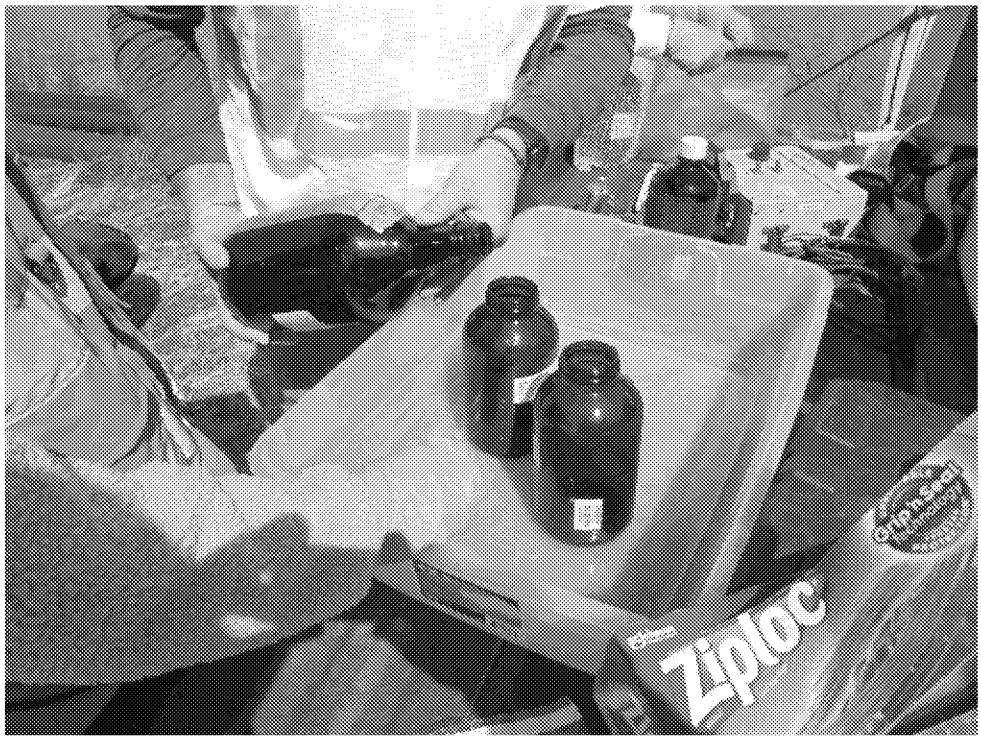


Photo 7. New Fields staff member collecting split samples.

Photo 8. EA staff member with sampling apparatus and safety equipment on the north side of the northwest lagoon.

Attachment:

Field Collection Sheets

DAILY QUALITY CONTROL REPORT

Project Manager: Dan Bighee

Project: ACT En - Lagoon Sampling

Date: 26 Apr 2022

S	M	T	W	TH	F	S
		X				

Weather	Bright Sun	Clear	Overcast	Rain	Snow
		X			
Temp	To 32	32-50	50-70	70-85	>85
				79°	
Wind	Still	Moderate	High	Gusty	
		X			
Humidity	Dry	Moderate	Humid		
X					

NDEQ Personnel on Site: Jim Bovaird - NDEE

Contractors on Site: K Dixon, N. Butts, M. Hansen, M. Duchcherz

Visitors on Site: Sadie w/ NPU Dodds - ARCADIS

Work Performed:

Sampled SE and NE Lagoon. 3 Soil Loam bank in Each. Dedicated tubing used to collect Subsamples at 18" and 72" below surface using peristaltic pump. ≥ 600 ml of lagoon water collected from each zone at depth - glass amber Jug. a 1qt glass amber was filled with composite water for the Sample

Samples stored on ice and stored in EA Sample Cooler overnight

Project: Alt-En Lagoon Sample **Date:** 26 Apr 22

Quality Control Activities (including field calibration and duplicate samples collected):

No Quality Control Samples collected

Problems Encountered/Corrective Actions Taken:

None

Downtime/Standby: None

Health and Safety Activities:

Hard Hat, Safety Vest, Steel Toe Do not walk on Liner, Safety Rope-Safety Harness review. two-way communication, Caution-wash away all

Special Notes: Lagoon Water back into Lagoon.

By: [signature] **Date:** 26 Apr 2022

Sheet 2 of 2

DAILY QUALITY CONTROL REPORT

Project Manager: Dan Bigbee

Project: Alt-Eu - Lagoon Sample

Date: 27 Apr 2022

S	M	T	W	TH	F	S
			X			

Weather	Bright Sun	Clear	Overcast	Rain	Snow
		10:3→120	X 0— 10:30		
Temp	To 32	32-50	50-70 56	70-85 74	>85
Wind	Still	Moderate	High gust to 20mph	Gusty	
Humidity	Dry X	Moderate	Humid		

NDEQ Personnel on Site: Jim Bobovich

Contractors on Site: K. Dixon, M. Hansen, W. Ruhe, M. Drelichasz

Visitors on Site: Sadie - contractor with Newfields

Work Performed:
Sampled NW - using same technique as for other lagoons

Sheet 1 of 2

Project: _____ **Date:** _____

Quality Control Activities (including field calibration and duplicate samples collected):
Collected Duplicate Sample MW-96 - parent MW-18

Problems Encountered/Corrective Actions Taken:
None

Downtime/Standby:
None

Health and Safety Activities:
Do not Walk on Liner. Positive communication

Special Notes:
Samples Packed on Dry ice sealed in cooler and shipped via overnight Courier to Laboratory

By: _____ **Date:** 27 Apr 22

COLLECTION FIELD SHEET

Project Name AltEn Lagoon Sampling

Sample Number SE-18 and SE-72

Name and Address of Property Owner AltEn - Mead, NE

Sample Location 4-corners of SE-Lagoon

Sample Media Lagoon Water **Sample Depth** 18" and 72" below surface

Well I.D. NA

Date Collected 26-Apr 22 **Time Collected** 18" = 1215, 72" = 1220

Sampling Personnel K. Dixon, M. Dolichowz, M. Hanson, N. Potts

Sample QC Duplicate: Yes (No) **Duplicate Sample No.** NA

Field Measurements
Photo Ionization Detector Measurements: None

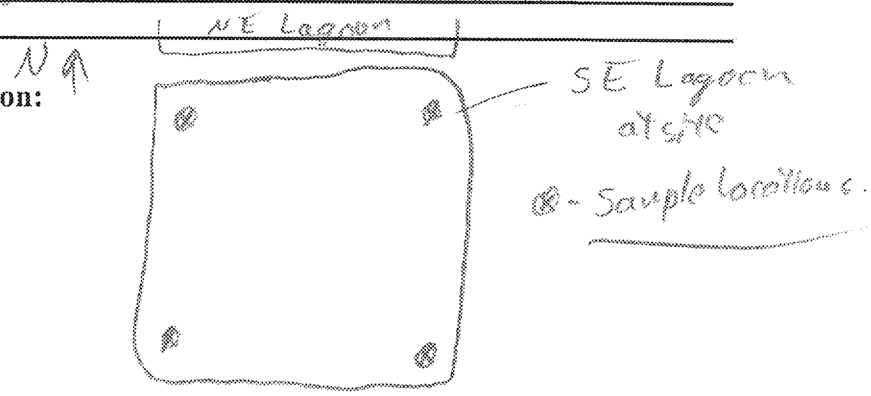
pH NA **Conductivity** NA **Temperature** NA

Container	Sample Type	Preservative	Analysis Requested
1-1qt glass Amber	Composite	Cool	Select pesticide
Sample splits with Neutfields.			

Comments: Aliquots were collected from each corner of lagoon into a glass Amber composite container ≈ 600 ml each sample aliquots, collected 18" and 72" below surface for two samples

Site Sketch Showing Sampling Location:

See.



COLLECTION FIELD SHEET

Project Name AltEn - Lagoon Sampling

Sample Number NE-18 and NE-72

Name and Address of Property Owner AltEn - Mead, NE

Sample Location Subsamples for composite from 4-corners NE Lagoon

Sample Media Lagoon Water **Sample Depth** 18" and 72" below lagoon surface

Well I.D. NA NE-18 @ 1515

Date Collected 26 April 22 **Time Collected** NE-72 @ 1520

Sampling Personnel K. Dixon, M. Hansen, N. Butts, M. Duchchaz

Sample QC Duplicate: Yes (No) **Duplicate Sample No.** NA

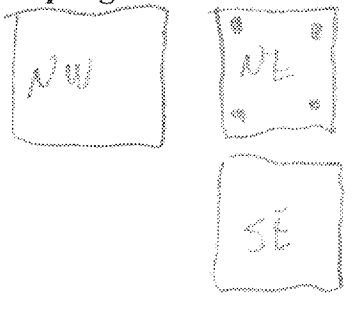
Field Measurements
Photo Ionization Detector Measurements: NA

pH NA **Conductivity** NA **Temperature** NA

Container	Sample Type	Preservative	Analysis Requested
1- 1gal amber gl	composite	Cool	Pesticides @ 18" depth
1- gal amber gl	composite	Cool	Pesticide @ 72" depth

Comments:
Composite sample. 4 aliquots collected from each corner of Lagoon collected in dedicated glass containers. For each depth. 18" and 72" below surface.
Sample splits with Hartfield -

Site Sketch Showing Sampling Location:



* - Sample point AltEn Lagoons

COLLECTION FIELD SHEET

Project Name Alt En - Lagoon Sampling -

Sample Number North west Lagoon, NW-18" and NW-72"

Name and Address of Property Owner Alt-En, Mead, NE

Sample Location 4 corners of Lagoon: NW, 4-composite subsamples

Sample Media Lagoon Water **Sample Depth** _____

NW-18 @ 1135
NW-72 @ 1140

Well I.D. NA

Date Collected 27 Apr 2022 **Time Collected** NW-96 @ 1145

Sampling Personnel K Dixon, M. Hansen, N Ruthe, M. Drolicharz

Sample QC Duplicate: (Yes) No **Duplicate Sample No.** NW-96 @ 1145
parent NW-18

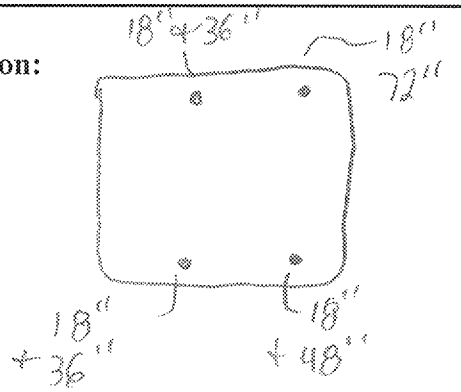
Field Measurements
Photo Ionization Detector Measurements: NA

pH NA **Conductivity** NA **Temperature** NA

Container	Sample Type	Preservative	Analysis Requested
Lgr Amberglass	Composite	Cool	Pesticide - NW-18
Lgt Amberglass	Composite	Cool	Pesticide - NW-72
Duplicate - lgt amber	composite	Cool	Duplicate Pesticide - NW96 parent NW-18

Comments:
Composite Sample collected four equal aliquots from each corner
Sample - Split with Neal Fields -

Site Sketch Showing Sampling Location:



N

Attachment:

Analytical Report
Pacific Agricultural Laboratories

Matrix SCIENCES | PAL PACIFIC AGRICULTURAL LABORATORY

PACAGLAB.COM
503.626.7943
21830 S.W. Alexander Ln
Sherwood, OR 97140

EA Engineering, Science and Technology, Inc.
221 Sun Valley Blvd., Suite D
Lincoln, NE 68528

Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: SE-18
Matrix: water

PAL Sample ID: P220529-01
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	ND	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	29 ug/L	0.60 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	8.8 ug/L	0.60 ug/L	
5/03/22	5/5/22	Permethrin	ND	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	56 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	0.51 ug/L	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	ND	0.060 ug/L	
Surrogate Recovery: 88 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	74 ug/L	6.0 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	1.5 ug/L	0.60 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.10 ug/L	RL1
5/02/22	5/2/22	Carboxin	2.3 ug/L	0.060 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	110 ug/L	6.0 ug/L	
5/02/22	5/2/22	Clothianidin	ND	0.10 ug/L	RL1
5/03/22	5/4/22	Cyantraniliprole	ND	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	2.5 ug/L	0.60 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Sherwood, OR 97140

EA Engineering, Science and Technology, Inc.
221 Sun Valley Blvd., Suite D
Lincoln, NE 68528

Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: SE-18
Matrix: water

PAL Sample ID: P220529-01
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.060 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	5.8 ug/L	0.60 ug/L	
5/03/22	5/4/22	Imidacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	7.7 ug/L	0.60 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	2.3 ug/L	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.060 ug/L	
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	19 ug/L	0.60 ug/L	
5/02/22	5/2/22	Prothioconazole	3.6 ug/L	0.25 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	160 ug/L	6.0 ug/L	
5/03/22	5/4/22	Thiabendazole	500 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	ND	0.60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.060 ug/L	
5/03/22	5/4/22	Trifloxystrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 79 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: SE-72
Matrix: water

PAL Sample ID: P220529-02
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	ND	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	30 ug/L	0.60 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	8.9 ug/L	0.60 ug/L	
5/03/22	5/5/22	Permethrin	ND	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	60 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	0.51 ug/L	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	ND	0.060 ug/L	
Surrogate Recovery: 86 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	74 ug/L	6.0 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	1.5 ug/L	0.60 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.10 ug/L	RL1
5/02/22	5/2/22	Carboxin	2.3 ug/L	0.060 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	110 ug/L	6.0 ug/L	
5/02/22	5/2/22	Clothianidin	ND	0.060 ug/L	
5/03/22	5/4/22	Cyantraniliprole	ND	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	2.4 ug/L	0.60 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: SE-72
Matrix: water

PAL Sample ID: P220529-02
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.060 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	5.9 ug/L	0.60 ug/L	
5/03/22	5/4/22	Imidacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	7.7 ug/L	0.60 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	2.3 ug/L	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.060 ug/L	
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	19 ug/L	0.60 ug/L	
5/02/22	5/2/22	Prothioconazole	3.5 ug/L	0.25 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	160 ug/L	6.0 ug/L	
5/03/22	5/4/22	Thiabendazole	490 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	ND	0.60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.060 ug/L	
5/03/22	5/4/22	Trifloxystrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 79 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NE-18
Matrix: water

PAL Sample ID: P220529-03
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	ND	0.20 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	220 ug/L	6.0 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	35 ug/L	6.0 ug/L	
5/03/22	5/5/22	Permethrin	0.24 ug/L	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	160 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	0.36 ug/L	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	0.11 ug/L	0.060 ug/L	
Surrogate Recovery: 95 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	1400 ug/L	60 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	0.87 ug/L	0.60 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.060 ug/L	
5/02/22	5/2/22	Carboxin	4.4 ug/L	0.060 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	780 ug/L	60 ug/L	
5/02/22	5/2/22	Clothianidin	ND	0.060 ug/L	
5/03/22	5/4/22	Cyantraniliprole	ND	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	46 ug/L	6.0 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Client Project ID: 1606407

Analytical Report

Client Sample ID: NE-18
Matrix: water

PAL Sample ID: P220529-03
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.060 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	640 ug/L	60 ug/L	
5/03/22	5/4/22	Imidacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	210 ug/L	6.0 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	3.7 ug/L	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.40 ug/L	RL1
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	16 ug/L	0.60 ug/L	
5/02/22	5/4/22	Prothioconazole	96 ug/L	0.80 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	480 ug/L	60 ug/L	
5/03/22	5/4/22	Thiabendazole	1500 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	1.4 ug/L	0.60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.10 ug/L	RL1
5/03/22	5/4/22	Trifloxystrobin	10 ug/L	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 91 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NE-72
Matrix: water

PAL Sample ID: P220529-04
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	0.16 ug/L	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	280 ug/L	6.0 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	32 ug/L	6.0 ug/L	
5/03/22	5/5/22	Permethrin	0.33 ug/L	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	170 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	0.44 ug/L	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	0.12 ug/L	0.060 ug/L	
Surrogate Recovery: 89 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	1800 ug/L	60 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	0.89 ug/L	0.60 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.10 ug/L	RL1
5/02/22	5/2/22	Carboxin	4.5 ug/L	0.060 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	760 ug/L	60 ug/L	
5/02/22	5/2/22	Clothianidin	ND	0.10 ug/L	RL1
5/03/22	5/4/22	Cyantraniliprole	ND	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	62 ug/L	6.0 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NE-72
Matrix: water

PAL Sample ID: P220529-04
Sample Date: 4/26/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.060 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	740 ug/L	60 ug/L	
5/03/22	5/4/22	Imidacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	260 ug/L	6.0 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	4.3 ug/L	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.50 ug/L	RL1
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	18 ug/L	0.60 ug/L	
5/02/22	5/4/22	Prothioconazole	140 ug/L	0.80 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	530 ug/L	60 ug/L	
5/03/22	5/4/22	Thiabendazole	1700 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	1.3 ug/L	0.60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.10 ug/L	RL1
5/03/22	5/4/22	Trifloxystrobin	14 ug/L	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 85 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NW-18
Matrix: water

PAL Sample ID: P220529-05
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	ND	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	26 ug/L	0.60 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	3700 ug/L	600 ug/L	
5/03/22	5/5/22	Permethrin	ND	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	75 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	ND	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	0.12 ug/L	0.060 ug/L	
Surrogate Recovery: 80 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	120 ug/L	6.0 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	88 ug/L	6.0 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.060 ug/L	
5/02/22	5/2/22	Carboxin	ND	0.30 ug/L	RL1
5/03/22	5/4/22	Chlorantraniliprole	760 ug/L	60 ug/L	
5/02/22	5/3/22	Clothianidin	200 ug/L	4.0 ug/L	
5/03/22	5/4/22	Cyantraniliprole	2.3 ug/L	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	1.3 ug/L	0.60 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

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Analytical Report

Client Sample ID: NW-18
Matrix: water

PAL Sample ID: P220529-05
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.30 ug/L	RL1
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	740 ug/L	60 ug/L	
5/03/22	5/4/22	Imidacloprid	2.0 ug/L	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	14 ug/L	0.60 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.060 ug/L	
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Prothioconazole	3.7 ug/L	0.25 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	75 ug/L	6.0 ug/L	
5/03/22	5/4/22	Thiabendazole	990 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	1600 ug/L	60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.060 ug/L	
5/03/22	5/4/22	Trifloxystrobin	5.0 ug/L	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 81 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Client Project ID: 1606407

Analytical Report

Client Sample ID: NW-72
Matrix: water

PAL Sample ID: P220529-06
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	0.073 ug/L	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	48 ug/L	6.0 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	3300 ug/L	600 ug/L	
5/03/22	5/5/22	Permethrin	ND	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	89 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	ND	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	0.10 ug/L	0.060 ug/L	
Surrogate Recovery: 84 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	500 ug/L	60 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	95 ug/L	6.0 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.060 ug/L	
5/02/22	5/2/22	Carboxin	ND	0.40 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	790 ug/L	60 ug/L	
5/02/22	5/3/22	Clothianidin	180 ug/L	4.0 ug/L	
5/03/22	5/4/22	Cyantraniliprole	2.4 ug/L	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	1.4 ug/L	0.60 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NW-72
Matrix: water

PAL Sample ID: P220529-06
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.60 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	980 ug/L	60 ug/L	
5/03/22	5/4/22	Imidacloprid	1.8 ug/L	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	44 ug/L	0.60 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.060 ug/L	
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	ND	0.60 ug/L	
5/02/22	5/3/22	Prothioconazole	25 ug/L	0.40 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	110 ug/L	6.0 ug/L	
5/03/22	5/4/22	Thiabendazole	1100 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	1500 ug/L	60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.060 ug/L	
5/03/22	5/4/22	Trifloxystrobin	19 ug/L	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 84 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NW-96
Matrix: water

PAL Sample ID: P220529-07
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
Method: Modified EPA 8270D (GC-MS/MS)					
5/03/22	5/5/22	Bifenthrin	ND	0.060 ug/L	
5/03/22	5/5/22	Captan	ND	0.60 ug/L	
5/03/22	5/5/22	Chlorpyrifos	ND	0.060 ug/L	
5/03/22	5/5/22	Chlorpyrifos-methyl	ND	0.060 ug/L	
5/03/22	5/5/22	Cyfluthrin	ND	0.30 ug/L	
5/03/22	5/5/22	Cypermethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Deltamethrin	ND	0.30 ug/L	
5/03/22	5/5/22	Fludioxonil	24 ug/L	0.60 ug/L	
5/03/22	5/5/22	lambda-Cyhalothrin	ND	0.060 ug/L	
5/03/22	5/5/22	Mefenoxam	4200 ug/L	600 ug/L	
5/03/22	5/5/22	Permethrin	ND	0.12 ug/L	
5/03/22	5/5/22	Sedaxane	74 ug/L	6.0 ug/L	
5/03/22	5/5/22	Tetraconazole	ND	0.060 ug/L	
5/03/22	5/5/22	Tioxazafen	0.11 ug/L	0.060 ug/L	
Surrogate Recovery: 80 %					
Surrogate Recovery Range: 60-141					
(TPP-d15 used as Surrogate)					
Method: Modified EPA 8321B (LC-MS/MS)					
5/03/22	5/4/22	Abamectin	110 ug/L	6.0 ug/L	
5/03/22	5/4/22	Acetamiprid	ND	0.60 ug/L	
5/03/22	5/4/22	Azoxystrobin	84 ug/L	6.0 ug/L	
5/03/22	5/4/22	Brassinazole	ND	0.60 ug/L	
5/02/22	5/2/22	Carbendazim	ND	0.060 ug/L	
5/02/22	5/2/22	Carboxin	ND	0.20 ug/L	
5/03/22	5/4/22	Chlorantraniliprole	710 ug/L	60 ug/L	
5/02/22	5/3/22	Clothianidin	210 ug/L	4.0 ug/L	
5/03/22	5/4/22	Cyantraniliprole	2.3 ug/L	0.60 ug/L	
5/03/22	5/4/22	Cyproconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Difenoconazole	1.2 ug/L	0.60 ug/L	
5/03/22	5/4/22	Dimoxystrobin	ND	0.60 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Analytical Report

Client Sample ID: NW-96
Matrix: water

PAL Sample ID: P220529-07
Sample Date: 4/27/22
Received Date: 4/29/22

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/02/22	5/2/22	Dinotefuran	ND	0.060 ug/L	
5/03/22	5/4/22	Epoxiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Fluconazole	ND	0.060 ug/L	
5/03/22	5/4/22	Fluoxastrobin	690 ug/L	60 ug/L	
5/03/22	5/4/22	Imidacloprid	1.9 ug/L	0.60 ug/L	
5/03/22	5/4/22	Ipconazole	13 ug/L	0.60 ug/L	
5/03/22	5/4/22	Isavuconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Itraconazole	ND	0.10 ug/L	
5/03/22	5/4/22	Metconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Nitenpyram	ND	0.060 ug/L	
5/03/22	5/4/22	Orysastrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Picoxystrobin	ND	0.60 ug/L	
5/02/22	5/2/22	Posaconazole	ND	0.20 ug/L	
5/03/22	5/4/22	Propiconazole	ND	0.60 ug/L	
5/02/22	5/2/22	Prothioconazole	4.4 ug/L	0.25 ug/L	
5/03/22	5/4/22	Pyraclostrobin	ND	0.60 ug/L	
5/03/22	5/4/22	Ravuconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Tebuconazole	72 ug/L	6.0 ug/L	
5/03/22	5/4/22	Thiabendazole	930 ug/L	60 ug/L	
5/03/22	5/4/22	Thiacloprid	ND	0.60 ug/L	
5/03/22	5/4/22	Thiamethoxam	1500 ug/L	60 ug/L	
5/02/22	5/2/22	Thiophanate methyl	ND	0.060 ug/L	
5/03/22	5/4/22	Trifloxystrobin	4.7 ug/L	0.60 ug/L	
5/03/22	5/4/22	Uniconazole	ND	0.60 ug/L	
5/03/22	5/4/22	Voriconazole	ND	0.60 ug/L	

Surrogate Recovery: 79 %
Surrogate Recovery Range: 60-140
(TPP-d15 used as Surrogate)

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Quality Assurance

Method Blank Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/2/22	5/3/22	22E0205-BLK1	Carbendazim	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Carboxin	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Clothianidin	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Dinotefuran	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Fluconazole	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Itraconazole	Not Detected	< 0.10 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Nitenpyram	Not Detected	< 0.060 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Posaconazole	Not Detected	< 0.20 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Prothioconazole	Not Detected	< 0.25 ug/L	
5/2/22	5/3/22	22E0205-BLK1	Thiophanate methyl	Not Detected	< 0.060 ug/L	

Method Blank Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/3/22	5/3/22	22E0302-BLK1	Abamectin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Acetamiprid	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Azoxystrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Bifenthrin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Brassinazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Captan	Not Detected	< 0.60 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Chlorantraniliprole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Chlorpyrifos	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Chlorpyrifos-methyl	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Cyantraniliprole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Cyfluthrin	Not Detected	< 0.30 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Cypermethrin	Not Detected	< 0.30 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Cyproconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Deltamethrin	Not Detected	< 0.30 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Difenoconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Dimoxystrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Epoxiconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Fludioxonil	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Fluoxastrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Imidacloprid	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Ipconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Isavuconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	lambda-Cyhalothrin	Not Detected	< 0.060 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Method Blank Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/3/22	5/3/22	22E0302-BLK1	Mefenoxam	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Metconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Orysastrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Permethrin	Not Detected	< 0.12 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Picoxystrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Propiconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Pyraclostrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Ravuconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Sedaxane	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Tebuconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Tetraconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Thiabendazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Thiacloprid	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Thiamethoxam	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Tioxazafen	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Trifloxystrobin	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Uniconazole	Not Detected	< 0.060 ug/L	
5/3/22	5/3/22	22E0302-BLK1	Voriconazole	Not Detected	< 0.060 ug/L	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Blank Spike Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/2/22	5/3/22	22E0205-BS1	Carbendazim	100	60-140	
5/2/22	5/3/22	22E0205-BSD1	Carbendazim	102	60-140	
5/2/22	5/3/22	22E0205-BS1	Carboxin	97	60-140	
5/2/22	5/3/22	22E0205-BSD1	Carboxin	98	60-140	
5/2/22	5/3/22	22E0205-BS1	Clothianidin	97	60-140	
5/2/22	5/3/22	22E0205-BSD1	Clothianidin	103	60-140	
5/2/22	5/3/22	22E0205-BS1	Dinotefuran	99	60-140	
5/2/22	5/3/22	22E0205-BSD1	Dinotefuran	101	60-140	
5/2/22	5/3/22	22E0205-BS1	Fluconazole	99	60-140	
5/2/22	5/3/22	22E0205-BSD1	Fluconazole	100	60-140	
5/2/22	5/3/22	22E0205-BS1	Itraconazole	98	60-140	
5/2/22	5/3/22	22E0205-BSD1	Itraconazole	97	60-140	
5/2/22	5/3/22	22E0205-BS1	Nitenpyram	99	60-140	
5/2/22	5/3/22	22E0205-BSD1	Nitenpyram	102	60-140	
5/2/22	5/3/22	22E0205-BS1	Posaconazole	88	60-140	
5/2/22	5/3/22	22E0205-BSD1	Posaconazole	88	60-140	
5/2/22	5/3/22	22E0205-BS1	Prothioconazole	100	60-140	
5/2/22	5/3/22	22E0205-BSD1	Prothioconazole	109	60-140	
5/2/22	5/3/22	22E0205-BS1	Thiophanate methyl	96	60-140	
5/2/22	5/3/22	22E0205-BSD1	Thiophanate methyl	98	60-140	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

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Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Blank Spike Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/3/22	5/4/22	22E0302-BS1	Abamectin	90	60-140	
5/3/22	5/4/22	22E0302-BSD1	Abamectin	93	60-140	
5/3/22	5/4/22	22E0302-BS1	Acetamiprid	89	60-140	
5/3/22	5/4/22	22E0302-BSD1	Acetamiprid	92	60-140	
5/3/22	5/4/22	22E0302-BS1	Azoxystrobin	93	60-140	
5/3/22	5/4/22	22E0302-BSD1	Azoxystrobin	95	60-140	
5/3/22	5/3/22	22E0302-BS1	Bifenthrin	93	63-142	
5/3/22	5/3/22	22E0302-BSD1	Bifenthrin	86	63-142	
5/3/22	5/4/22	22E0302-BS1	Brassinazole	93	60-140	
5/3/22	5/4/22	22E0302-BSD1	Brassinazole	94	60-140	
5/3/22	5/3/22	22E0302-BS1	Captan	97	32-119	
5/3/22	5/3/22	22E0302-BSD1	Captan	81	32-119	
5/3/22	5/4/22	22E0302-BS1	Chlorantraniliprole	94	60-140	
5/3/22	5/4/22	22E0302-BSD1	Chlorantraniliprole	97	60-140	
5/3/22	5/3/22	22E0302-BS1	Chlorpyrifos	89	69-128	
5/3/22	5/3/22	22E0302-BSD1	Chlorpyrifos	81	69-128	
5/3/22	5/3/22	22E0302-BS1	Chlorpyrifos-methyl	87	61-131	
5/3/22	5/3/22	22E0302-BSD1	Chlorpyrifos-methyl	83	61-131	
5/3/22	5/4/22	22E0302-BS1	Cyantraniliprole	90	60-140	
5/3/22	5/4/22	22E0302-BSD1	Cyantraniliprole	92	60-140	
5/3/22	5/3/22	22E0302-BS1	Cyfluthrin	88	50-158	
5/3/22	5/3/22	22E0302-BSD1	Cyfluthrin	87	50-158	
5/3/22	5/3/22	22E0302-BS1	Cypermethrin	87	48-163	
5/3/22	5/3/22	22E0302-BSD1	Cypermethrin	82	48-163	
5/3/22	5/4/22	22E0302-BS1	Cyproconazole	95	60-140	
5/3/22	5/4/22	22E0302-BSD1	Cyproconazole	96	60-140	
5/3/22	5/3/22	22E0302-BS1	Deltamethrin	94	59-148	
5/3/22	5/3/22	22E0302-BSD1	Deltamethrin	93	59-148	
5/3/22	5/4/22	22E0302-BS1	Difenoconazole	89	60-140	
5/3/22	5/4/22	22E0302-BSD1	Difenoconazole	92	60-140	
5/3/22	5/4/22	22E0302-BS1	Dimoxystrobin	95	60-140	
5/3/22	5/4/22	22E0302-BSD1	Dimoxystrobin	95	60-140	
5/3/22	5/4/22	22E0302-BS1	Epoxiconazole	93	60-140	
5/3/22	5/4/22	22E0302-BSD1	Epoxiconazole	95	60-140	
5/3/22	5/3/22	22E0302-BS1	Fludioxonil	96	49-143	
5/3/22	5/3/22	22E0302-BSD1	Fludioxonil	92	49-143	
5/3/22	5/4/22	22E0302-BS1	Fluoxastrobin	94	60-140	
5/3/22	5/4/22	22E0302-BSD1	Fluoxastrobin	95	60-140	
5/3/22	5/4/22	22E0302-BS1	Imidacloprid	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Imidacloprid	95	60-140	
5/3/22	5/4/22	22E0302-BS1	Ipconazole	91	60-140	
5/3/22	5/4/22	22E0302-BSD1	Ipconazole	94	60-140	
5/3/22	5/4/22	22E0302-BS1	Isavuconazole	93	60-140	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

Matrix SCIENCES | PAL PACIFIC AGRICULTURAL LABORATORY

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503.626.7943
21830 S.W. Alexander Ln
Sherwood, OR 97140

EA Engineering, Science and Technology, Inc.
221 Sun Valley Blvd., Suite D
Lincoln, NE 68528

Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Blank Spike Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/3/22	5/4/22	22E0302-BSD1	Isavuconazole	96	60-140	
5/3/22	5/3/22	22E0302-BS1	lambda-Cyhalothrin	101	61-141	
5/3/22	5/3/22	22E0302-BSD1	lambda-Cyhalothrin	91	61-141	
5/3/22	5/3/22	22E0302-BS1	Mefenoxam	87	69-130	
5/3/22	5/3/22	22E0302-BSD1	Mefenoxam	87	69-130	
5/3/22	5/4/22	22E0302-BS1	Metconazole	91	60-140	
5/3/22	5/4/22	22E0302-BSD1	Metconazole	93	60-140	
5/3/22	5/4/22	22E0302-BS1	Orysastrobin	93	60-140	
5/3/22	5/4/22	22E0302-BSD1	Orysastrobin	94	60-140	
5/3/22	5/3/22	22E0302-BS1	Permethrin	94	62-146	
5/3/22	5/3/22	22E0302-BSD1	Permethrin	87	62-146	
5/3/22	5/4/22	22E0302-BS1	Picoxystrobin	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Picoxystrobin	93	60-140	
5/3/22	5/4/22	22E0302-BS1	Propiconazole	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Propiconazole	95	60-140	
5/3/22	5/4/22	22E0302-BS1	Pyraclostrobin	89	60-140	
5/3/22	5/4/22	22E0302-BSD1	Pyraclostrobin	92	60-140	
5/3/22	5/4/22	22E0302-BS1	Ravuconazole	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Ravuconazole	96	60-140	
5/3/22	5/3/22	22E0302-BS1	Sedaxane	95	60-140	
5/3/22	5/3/22	22E0302-BSD1	Sedaxane	92	60-140	
5/3/22	5/4/22	22E0302-BS1	Tebuconazole	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Tebuconazole	95	60-140	
5/3/22	5/3/22	22E0302-BS1	Tetraconazole	88	58-143	
5/3/22	5/3/22	22E0302-BSD1	Tetraconazole	87	58-143	
5/3/22	5/4/22	22E0302-BS1	Thiabendazole	86	60-140	
5/3/22	5/4/22	22E0302-BSD1	Thiabendazole	91	60-140	
5/3/22	5/4/22	22E0302-BS1	Thiacloprid	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Thiacloprid	94	60-140	
5/3/22	5/4/22	22E0302-BS1	Thiamethoxam	84	60-140	
5/3/22	5/4/22	22E0302-BSD1	Thiamethoxam	87	60-140	
5/3/22	5/3/22	22E0302-BS1	Tioxazafen	82	60-140	
5/3/22	5/3/22	22E0302-BSD1	Tioxazafen	78	60-140	
5/3/22	5/4/22	22E0302-BS1	Trifloxystrobin	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Trifloxystrobin	94	60-140	
5/3/22	5/4/22	22E0302-BS1	Uniconazole	91	60-140	
5/3/22	5/4/22	22E0302-BSD1	Uniconazole	95	60-140	
5/3/22	5/4/22	22E0302-BS1	Voriconazole	92	60-140	
5/3/22	5/4/22	22E0302-BSD1	Voriconazole	94	60-140	

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

Matrix SCIENCES | PAL PACIFIC AGRICULTURAL LABORATORY

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21830 S.W. Alexander Ln
Sherwood, OR 97140

EA Engineering, Science and Technology, Inc.
221 Sun Valley Blvd., Suite D
Lincoln, NE 68528

Report Number: P220529
Report Date: May 13, 2022
Client Project ID: 1606407

Project Notes

Notes	Definition
RL1	Limit of quantitation raised due to the complexity of the sample matrix.

This analytical report complies with the ISO/IEC 17025:2017 Quality Standard.

Rick Jordan, Laboratory Director

Matrix SCIENCES | PAL PACIFIC AGRICULTURAL LABORATORY

ANALYTICAL REQUEST/CHAIN OF CUSTODY

Pacific Agricultural Laboratory
21830 S.W. Alexander Ln. • Sherwood, OR 97140
Tel 503.626.7943 • pacaglab.com

Form F011, Rev 04

Page 1 of 1

PAL Project # 220529

CLIENT INFO

Company: EA Engineering, Science, and Technology, Inc., PBC
Contact: Dan Bigbee
Address: 221 Sun Valley Blvd, Suite D
City: Lincoln State: NE Zip: 68528
Telephone: 402-476-3766 Mobile Phone: 402-304-6104
Email(s): dbigbee@eaest.com
Project #: 1606407 Purchase Order #: 23574

PAL ID (Lab use only)	Client Sample ID	Sample Date	Sample Time	Sample Type	Container Type	No. of Containers	Requested Analysis: Selected Pesticides in Water EPA 8321B-EPA 8270D	Comments
220529-01	SE - 18	4-26-2022	1215	Lagoon	Glass	1	x	
" -02	SE - 72	4-26-2022	1220	Lagoon	Glass	1	x	
" -03	NE - 18	4-26-2022	1515	Lagoon	Glass	1	x	
" -04	NE - 72	4-26-2022	1520	Lagoon	Glass	1	x	
" -05	NW - 18	4-27-2022	1135	Lagoon	Glass	1	x	
" -06	NW - 72	4-27-2022	1140	Lagoon	Glass	1	x	
" -07	NW - 96	4-27-2022	1145	Lagoon	Glass	1	x	

Requested Turnaround Time
☑ Standard
☐ Rush _____ please specify

Relinquished by: SIGNATURE _____ DATE 27Apr22 TIME 1700
Received by: SIGNATURE _____ DATE 4.29.22 TIME 1108

Relinquished by: SIGNATURE _____ DATE _____ TIME _____
Received by: SIGNATURE _____ DATE _____ TIME _____

Lab Comments: Quote is 21-D05 but analysis of these samples should not include Glyphosate + Glufosinate

Matrix SCIENCES | PAL PACIFIC AGRICULTURAL LABORATORY

WORK ORDER
P220529

Sample Receipt Acknowledgment

Project Manager: Rick Jordan
Project Number: 1606407

Report To:

EA Engineering, Science and Technology, Inc.
Dan Bigbee
221 Sun Valley Blvd., Suite D
Lincoln, NE 68528
Phone: (402) 476-3766

Date Received: 04/29/2022 11:08 AM

Cooler Data

Samples Received at:	**1.3°C**				
Custody Seals	(Yes)	COC/Labels Agree	(Yes)	Received On Ice	(Yes)
Containers Intact	(Yes)	Preservation Confirmed	(No)		

Client ID: **SE-18** Matrix: water, Sampled: 04/26/22
PAL ID: **P220529-01**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Client ID: **SE-72** Matrix: water, Sampled: 04/26/22
PAL ID: **P220529-02**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Client ID: **NE-18** Matrix: water, Sampled: 04/26/22
PAL ID: **P220529-03**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Sample Receipt Acknowledgment

Client ID: **NE-72** Matrix: water, Sampled: 04/26/22
PAL ID: **P220529-04**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Client ID: **NW-18** Matrix: water, Sampled: 04/27/22
PAL ID: **P220529-05**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Client ID: **NW-72** Matrix: water, Sampled: 04/27/22
PAL ID: **P220529-06**

Requested Analysis:

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Client ID: **NW-96** Matrix: water, Sampled: 04/27/22
PAL ID: **P220529-07**

Requested Analysis:

Pesticides (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8270D (GC-MS/MS), Due 05/13/22*

Multiresidue Pesticide Profile (500mL extraction), *Modified EPA 8321B (LC-MS/MS), Due 05/13/22*
